



MON-200

by Chris Stamboulidis

MON-200 is a machine code monitor program for both 8 and 24k VZ-200s, featuring relatively easy data entry, screen listing of memory, execution of routines and provision for dumping memory to a printer. Also included are utilities for decimal to hex conversion (and vice versa) as well as a block memory move facility. All input is in hexadecimal.

After CSAVEing and RUNning the program, you will have the following options available:

(E) **Enter Data:** data is entered eight bytes at a time in the format

'NNNN dd dd dd dd dd dd dd'

where NNNN is the location of the first byte to be entered, and dd represents a single byte. Hit RETURN after the last byte, and note that the spaces are essential for successful operation. Data entry is not accepted if you specify a ROM location (obviously), system RAM, program RAM or the location of the block move routine. After entering the first eight bytes, you may choose to repeat the procedure or, if entering data in sequential locations, simply hit RETURN when the input prompt appears; the next logical

memory location is automatically calculated and printed for you. The entry format remains the same whichever method is used. To abort data entry, hit 'A', and to return to the option menu use '-', which is the universal return-to-menu key throughout the program.

(V) **View Memory:** after selecting the 'View' option you will be asked for starting and ending locations (which default to 0 and 65528/FFF8H respectively if none is specified). Again, the 'A' key may be used to abort.

(R) **Run:** in the execute mode you will be asked to confirm your intention by typing 'R'. After entering the starting location of your routine, and assuming there is provision for a RET to Basic, you will be returned to the main menu after execution.

(D) **Decimal-Hex** and (H) **Hex-Decimal:** simple to use, just enter the number to be converted and hit RETURN. Press RETURN to use again or '-' to exit.

(M) **Move Memory:** you will be asked to enter the source, destination and length of memory to be moved, and are returned to the main menu on comple-

tion. The code for the routine is POKEd into memory from 29200/7210H onwards, which is part of the video RAM used by the hi-res screen. This doesn't rule out the use of MODE (1) as the routine is POKEd into place when needed.

(P) **Printout:** if you require a hard copy, ensure that your printer is connected before power-up. The routine was written for the PP-40 Printer/Plotter, although any printer should do. Note that line 4030 sets the printer to 40-column mode and selects black ink. Simply replaceing this with the appropriate instructions for your printer. After providing the code to be dumped with a name, hitting RETURN will enter the View mode where operation is as described here.

(X) **Exit:** you will be asked to confirm that this is your intention — 'YES' is the only way out.

Note that the following should be typed in with inverse text:

- line 10 : everything within the quote mark
- lines 20-50 : the letters inside the greater/less than symbols.

0	MON 200 19/7/84
1	A MACHINE CODE MONITOR
2	FOR THE VZ-200
3	

APC NOV 89

PROGRAMS

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4 '-----
5 DATA 237,75,20,114,237,91,18,114,237,1
07,16,114,237,176,201
8 CLEAR200:GOSUB20000
10 CLS:PRINT"      *** M O N - 2 0 0 ***
   ":Px=0
20 PRINT@134,"<X> EXIT":PRINTTAB(6)"<E>
ENTER DATA"
30 PRINTTAB(6)"<U> VIEW MEMORY":PRINTTAB
(6)"<R> RUN"
40 PRINTTAB(6)"<D> DECIMAL->HEX":PRINTTA
B(6)"<H> HEX->DECIMAL"
50 PRINTTAB(6)"<M> MOVE MEMORY":PRINTTAB
(6)"<P> PRINTOUT"
60 K$=INKEY$:K$=INKEY$:IFK$=""THEN60
70 IFK$="X"THEN10000
80 IFK$="E"GOSUB1000
90 IFK$="U"GOSUB2000
100 IFK$="P"GOSUB4000
110 IFK$="R"THEN3000
120 IFK$="H"THEN200
130 IFK$="D"THEN500
140 IFK$="M"THEN2000
150 GOTO60
200 CLS:PRINT:INPUT"HEX#";H$:IFH$=""THE
N10
205 GOSUB5000:IFEFXTHENPRINTER$:GOTO200E
LSEPRINT"DEC#=";D
210 Q$=INKEY$:Q$=INKEY$:IFQ$=""THEN210
220 IFQ$=""THEN10
230 IFQ$=CHR$(13)THEN200
240 GOTO210
500 CLS:PRINT:INPUT"DEC#";D$:IFD$=""THE
N10
503 IFD$<"0"ORD$>"9"THENPRINTER$:GOTO500
505 D=VAL(D$):GOSUB6000:IFEFXTHENPRINTER
$:GOTO500
508 PRINT"HEX#=";H$
510 Q$=INKEY$:Q$=INKEY$:IFQ$=""THEN510
520 IFQ$=""THEN10
530 IFQ$=CHR$(13)THEN500
540 GOTO510
1000 CLS:PRINT"ENTER DATA : <->=MENU <A>
=ABORT " :Mx=0
1010 INPUTED$:IFED$=""THEN10
1020 IFED$="A"THEN1000

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1030 IFED$="" THEN1100
1040 IFLEN(ED$)<>28 THENPRINTER$:GOTO1010
1050 H$=LEFT$(ED$,4):GOSUB5000:Mx=D:FORK
x=6TO27STEP3
1060 H$=MID$(ED$,Kx,2):GOSUB5000:U=Mx+(K
x/3-2)
1070 IFU>32767 THENU=U-FF
1080 POKEU,D:NEXT:GOTO1010
1100 Mx=Mx+8:D=Mx:GOSUB6000:PRINTCHR$(8)
;CHR$(27);" H$;
1110 FORYx=1TO6:PRINTCHR$(8);:NEXT:GOTO1
010
2000 CLS:PRINT"VIEW MEMORY : <->=MENU <A
>=ABORT"
2010 INPUT"* START";SU$:IFSU$="" THENSU=0
:GOTO2020
2012 IFSU$="A" THEN2000ELSE IFSU$="--" THEN1
0
2015 H$=SU$:GOSUB5000:IFEFx THENPRINTER$:
GOTO2010
2018 SU=D
2020 INPUT"* END ";EU$:IFEU$="--" THENEU=1
:M:GOTO2030
2022 IFEU$="A" THEN2000ELSE IFA$="--" THEN10
2025 H$=EU$:GOSUB5000:IFEFx THENPRINTER$:
GOTO2020
2028 EU=D
2030 CLS:PRINTF$:IFPx THENLPRINTLEFT$(F$,
29):LPRINTG$
2040 FORJ=SUTOEUSTEP8:D=I:GOSUB6000:PRIN
TH$;": ";
2050 IFPx THENLPRINTH$;": ";
2060 IFI>32767 THENOF=FFELSEOF=0
2070 FORJx=0107:D=PEEK(I+Jx OF):GOSUB600
0
2080 PRINTRIGHT$(H$,2);": ";
2082 IFPx THENLPRINTRIGHT$(H$,2);": ";
2084 NEXT:PRINT": IFPx THENLPRINT""
2085 IFPEEK(29120)<>32 THENPRINT00,F$:PRI
NT0477," "
2090 I$=INKEY$:I$=INKEY$:IFI$="" THEN2090
2092 IFI$="A" THEN2000
2095 IFI$="--" THEN10
2100 NEXT:Pz=0
2110 K$=INKEY$:IFK$="--" THEN2110

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PROGRAMS

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2115 IFK$="0"THEN2000
2120 IFK$="-"THEN10
2130 GOTO2110
3000 CLS:PRINT"EXECUTE : <->=MENU <R>=RU
N
"
3010 INPUT"START LOC":SL$:IFSL$=""THEN30
40
3020 IFSL$="-"THEN10
3030 H$=SL$:GOSUB9000:IFEFXTHENPRINTER$:
GOTO3040
3040 PRINT:INPUT"ENTER <R> RUN":AN$:IFAN
$=""THEN3040
3050 IFAN$="-"THEN10
3060 IFAN$<>"R"THEN3040
3065 MS=D/256:LS=D-(256*MS)
3070 POKE30862,LS:POKE30863,MS:X=USR(0):
GOTO10
4000 CLS:PRINT"PRINTOUT : <->=MENU
"
4010 PRINT"* ENSURE PRINTER READY":PRINT
:PX=1
4020 PRINT"* ENTER ROUTINE NAME:":INPUTR
N$:RN$=LEFT$(RN$,18)
4030 LPRINTCHR$(18):LPRINT"S1":LPRINT"C0
":LPRINTCHR$(17)
4035 INPUT"HIT <RETURN> TO PRINT":AN$:IF
AN$="-"THEN10
4040 LPRINT"MON-200 : ";RN$:GOTO2000
5000 EFX=0:D=0:LN=LEN(H$):IFLN>4THEN50
50
5010 FORI=1TOLN:B$=MID$(H$,I,1)
5020 IF(B$=>"0"ANDB$=<"9")OR(B$=>"A"ANDB
$=<"F")THEN5030ELSE5050
5030 JX=ASC(B$)-48:IFJX>9THENJX=JX-7
5040 D=D*16+JX:NEXT:RETURN
5050 EFX=1:RETURN
6000 EFX=0:H$="":IFD<0ORD>FF-1THEN6600
6010 ZX=D/4096:D=D-4096*ZX:GOSUB6500:ZX=
D/256:D=D-256*ZX
6020 GOSUB6500:ZX=D/16:D=D-16*ZX:GOSUB65
00:ZX=D:GOSUB6500:RETURN
6500 H$=H$+MID$(N$,ZX+1,1):RETURN
6600 EFX=1:RETURN
7000 CLS:PRINT"BLOCK MOVE : <+>=MENU

```

PROGRAMS

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7005 RESTORE:FOR I%=29206 TO 29220:READ J%:P
OKE I%,J%:NEXT
7010 INPUT"* FROM";SL$:IF SL$="-" THEN 10
7020 H%=SL$:GOSUB 5000:IF EF% THEN PRINTER$:
GOTO 7010 ELSE SL=D
7030 INPUT"* TO ";DL$:IF DL$="-" THEN 10
7040 H%=DL$:GOSUB 9000:IF EF% THEN PRINTER$:
GOTO 7030 ELSE DL=D
7050 INPUT"* BYTES";NB$:IF NB$="-" THEN 10
7055 H%=NB$:GOSUB 5000:IF EF% THEN PRINTER$:
GOTO 7050
7060 NB=D:H%=SL/256:G%=SL-(H%*256):POKE 2
9200,G%:POKE 29201,H%
7070 H%=DL/256:G%=DL-(H%*256):POKE 29202,
G%:POKE 29203,H%
7080 H%=NB/256:G%=NB-(H%*256):POKE 29204,
G%:POKE 29205,H%
7090 POKE 30862,22:POKE 30863,114:X=USR(0)
:GOTO 10
9000 IF LEN(H%)>4 THEN 9100
9010 GOSUB 5000
9020 IFD>TMORD<29184 THEN 9100
9030 IFD>30719 ANDD<(PEEK(30973)+256*PEEK
(30974)) THEN 9100
9040 IFD>29199 ANDD<29221 THEN 9100
9050 EF%=0:RETURN
9100 EF%=1:RETURN
10000 PRINT@449,"ARE YOU SURE";:INPUT AN$
10010 IF AN$<>"YES" THEN PRINT@449,SS$:GOTO
60
10020 PRINT@449,SS$:PRINT@449,"O.K.":FOR
D=1 TO 500:NEXT
10030 CLEAR 50:CLS:END
20000 N$="0123456789ABCDEF":EF%=0:ER$=""?
ERROR":FF=65536
20020 F$="LOC : +0 +1 +2 +3 +4 +5 +6 +7
"
20030 G$="
:F$=F$+G$
20040 SS$="
"
20050 TM=PEEK(30897)+256*PEEK(30898):RET
URN

```